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**METHOD AND SYSTEM CONSTITUTING A VIRTUAL COLLECTIVE ENTITY  
FOR MARKET-EFFICIENT RETAIL PURCHASE OF GOODS AND SERVICES**

This invention relates to improvements in commerce in goods and services which exploit e-commerce in a novel way. More particularly, the invention relates to brokering methods, systems, software, and internet sites to implement or facilitate the creation of multiple, product or service-specific, virtual, transient or enduring, purchasing collectives, preferably operated through the internet, which give the members of the collectives an opportunity to purchase goods and services that either they could not otherwise purchase individually or at prices normally available only to high volume purchasers.

Free markets forever have been governed by supply and demand, which are affected by countless interrelated factors affecting the supply of goods or services and the demand for goods and services in any particular location at any particular time. One immutable economic principle governing commercial purchase and sales transactions for fungible goods, ranging from barley to a sophisticated new model of computer, is that a purchaser of a large number of units of the product or service inherently will have a price advantage over a low volume purchase. Economies of scale and/or the inherent inefficiency in time and effort of many individual small transactions perhaps is the reason for this.

Prototypical of this phenomenon is modern trade in securities issued by companies representing equity, debt, or other investment vehicles. For example, small quantities of new issues normally are not available from underwriters for purchase by retail investors except through institutional purchases such as mutual funds or as favored clients of selected brokerage houses. The price per share of the issue is set by the investment banking house preferably so as to have the demand exceed supply, and price rises as retail or institutional buyers bid up the cost of the shares after they enter the public markets. Another example is block trades wherein institutions trade among each other large blocks of shares through the trading desks of investment banks. In this case, an institutional holder seeking to liquidate a large position in a particular security can sell into the market, possibly significantly depressing the price of the stock, or, as frequently occurs, can make a block trade. In a block trade a single purchaser of all or a large

fraction of the position will buy the securities at or below market with minimum disruption to the market price of that security.

Means to overcome the disadvantages of retail buying historically have involved the formation of purchasing collectives. For example, in the middle-ages bakers learned they could purchase flour from the local miller at a more advantageous price if they agreed among themselves to make one large order on behalf of a group, and then to distribute the flour to members of the group in accordance with some prearranged formula based on volume consumption.

Still another example is the development of commerce involving (depending on the industry) manufacturers who deal with distributors who deal with wholesalers who deal with retailers who deal with consumers. The number of units of the goods in question handled by merchants at these various levels decrease along the chain of distribution and the unit cost of the goods increases.

A well-known form for distributing product directly but in accordance with market forces is for an offeror to conduct an auction including top bid, dutch and other types of auctions. Top bid auctions involve purchasers submitting unconditional purchase offers at a specified price. The highest priced offer is the top bid. The prevailing top bid at the close of the auction wins and therefore buys the product. Contrary to the goal of allowing retail buyers to purchase at prices comparable to wholesale or institutional buyers, top bid auctions secure the highest possible price for the seller.

There are several forms of dutch auction. In one type, the price of each item diminishes during the auction. Purchasers who bid for an item can buy at the then current price. If no more buyers are found at that price, the auction manager decreases the price of the remaining units of that item. This process is repeated until no more units remain. This type of dutch auction also ensures a higher price for the seller than would occur if the entire lot was purchased at the lowest acceptable price, which is how the wholesale buyers or distributors would operate.

Another form of dutch auction applies to the purchase of large lots at a single, fixed lot price. In this case, prospective purchasers of the goods make bids at set prices for a set quantity of goods. At the end of the auction, the auction manager determines the price. The price is set at that price at or above which the cumulative bids exceed the quantity of units in the lot.

Allocations are made in descending order of price such that bids above the final price are satisfied in full (at the final price) prior to filling bids at the final price. Bids below the final price are rejected.

Currently, offerings of financial securities are managed by investment banking firms who act as underwriters. The lead underwriter effectively runs the "book" of bids and determines the final allocation of volume to institutions or retail buyers. Retail buyers typically are provided a small number of shares through the retail brokerage segments of the underwriting firms. Unlike auctions with predetermined rules, current offerings are allocated to buyers solely at the discretion of the lead underwriter in consultation with the issuer of the securities. Such allocations are determined in part based on the size of the bids made by institutions, by the previous business relationships between the specific institution and the underwriter, past record of flipping by the institution (i.e., selling the stock in the open market immediately after its purchase), likelihood of after market purchases by the institution (which can help stabilize or increase the price of the offered securities), and several other factors.

Recently, online electronic offerings of securities via the world wide web or internet have occurred. Even more recently, firms have started to conduct offerings of shares to retail buyers through the internet in offerings in which the online offeror is part of a syndicate of selling underwriters (e.g., Wit Capital), or the offeror is the lead manager and the entire offering is online (e.g., WRHambrecht & Co.). Acting as investment banks, these online service companies are acting as traditional "distributors" or seller's representatives for the securities, in contrast with being "agents" matching a group of buyers with a given seller.

Online purchase of products has also become commonplace (e.g., Amazon.com). Online auctions are also being conducted for individual products (E-bay) or a group of items (e.g., Bid.com). See, for example, U.S. 5,835,896 to Fisher et al. and U.S. 5,794,207 to Walker et al., the disclosures of which are incorporated herein by reference. However, in all of these cases, retail buyers participate individually instead of as a collective.

#### Summary of the Invention

This invention provides systems, methods and apparatus which constitute a brokerage entity operated for the benefit of consumers of goods and services which permits them to

purchase their requirements at prices normally available only to larger volume purchasers. The invention involves the formation of a virtual purchasing collective which is targeted to a particular product or service, for example, to an offering of financial securities.

Participation in the collective may be open to the public or may be open only to subscribers which open an account with the broker/agent-like entity operating the system. The consumer participants communicate with the entity electronically via a computer network such as the internet or, in some instances, via dedicated lines. The inventor has realized that because of the improvement in communications and the development of e-commerce, it is possible to create and manage transient or enduring collectives for the purchase of essentially any goods or service imaginable with the only requirement being that the goods be fungible, that is, that the goods be of a character where any unit thereof is essentially the same as any other unit of the same class of goods. Commodities and financial securities are prototypical fungible products, and of course, may be purchased in accordance with the process and system of this invention. However, many other goods and services also may qualify, including diverse products ranging from electric power to computer chips, to furniture, precious stones, petroleum products, printed materials, office products, building materials, machinery, consumer electronics, precious metals, long-distance telephone service, tickets to theaters, concerts, sports events and the like, transportation services, hotel space, railroad, air and truck delivery services, medical supplies, advertising space, clothing, pharmaceuticals, broadcast time, rental space for use as office, manufacturing space or storage, labor, insurance products, interests in real property, tax credits, and wines.

Accordingly, in one aspect, the invention provides methods and systems for selling units of a product to consumers of the product at a price per unit competitive with the price paid by bulk purchasers of the product. In many instances, a consumer's participation in the system disclosed herein may permit her to purchase items not otherwise available to her, e.g., shares of a desired initial public offering. The word consumers, as used herein, is intended to be interpreted broadly and includes, for example, purchasers of smaller amounts of goods who may or may not add value to them and then resell to an ultimate user. The terms "seller" or "offeror," as used herein, means a single entity or multiple entities which are capable of delivering, alone or together, a number of units of the goods or services, and choose to respond to submission of a collective bid, as hereafter defined, by accepting the obligation to fill it.

Broadly, the methods comprise posting in a way electronically accessible to consumers of the product, e.g., on a website, notice of the availability of the units of product for purchase, and optionally other data informative of the qualities and specifications of the products. The data may be presented, for example, as one or more links in the website to other websites of distributors or manufacturers of the product, and need not necessarily be posted on the website of the entity implementing the method on behalf of consumers. Consumers interested in making a purchase make a bid, or several alternative or multiple bids, indicating their commitment to buy a number of units of the product and the price they are willing to pay for that number of units. The bids are accumulated by the entity running the system, and during the bidding or after the bidding is closed, the bids are used to establish the terms of a "collective bid" to one or more third party sellers (individually or collectively) of the product for a selected number of units at a selected price per unit. Collective bids may be formulated in the manner of a fixed price, lot dutch auction (as described above), wherein a bid for N units is made at the price per unit bid for what turns out to be the Nth unit, with all consumers who bid at or above that price receiving units if the bid is successful. Alternative ways to establish the price at which a lot is purchased by the virtual collective involves the entity conducting the auction and using the data to negotiate the lowest possible price on behalf of the buyers' collective. As long as the negotiated price is at or below the price at which the cumulative volume ordered meets or exceeds the size of the lot, a successful transaction can be consummated. Optionally, a number of bids may be made to the seller of the product with bids for larger numbers of units having a lower cost per unit. Upon acceptance of a bid by the seller, units purchased from the seller are delivered either directly by the seller through the entity conducting the auction, or through a separate delivery organization, to consumers who bid successfully. Successful bidders pay for the goods, either directly or through the entity, and receive them at a market price they could not otherwise obtain. Typically, all successful bidders pay the same price and the number of units to be delivered to individual bidders is determined by the rules of the auction known in advance and agreed to by the bidders. Bidders who bid below the per unit price receive no units.

The commitments to purchase electronically delivered to the entity preferably are irrevocable commitments to purchase whatever number of units specified at the price specified on or before a certain date in the future. Preferably, the website of the brokerage entity includes

instructions for the buyer sufficient to enable them to place a bid electronically, set up an account, etc., to facilitate participation. The entity running the system may collect a commission from the successful bidders which take delivery and pay for their respective numbers of units, or may negotiate a commission with the seller. Alternatively, the entity may enroll potential bidders in a subscription service and collect a subscription fee. Alternatively, or in addition, the rules of the auction may permit the price per unit of a collective bid accepted by the seller to be lower than the price per unit collected from successful bidding customers so as to generate a profit. Preferably, the collective bids are calculated by the entity using the principles of a dutch auction for fixed price lots as previously described. Additional means for generating revenue and profits for the entity running the system for creating virtual collectives involves receiving fees from the seller of goods or services who wishes the entity to generate orders for the seller in the manner described in this invention. In addition, advertising revenues from sellers, potential sellers or other related parties, can be generated by advertising placements at the site where the auction process is conducted.

In another aspect, the invention provides a system for permitting retail consumers of small numbers of units of a product to purchase the units at a price competitive with the price paid by purchasers of larger numbers of units. The system comprises means electronically accessible to the consumers for recording "retail" bids made electronically at auction under pre-agreed rules by a multiplicity of consumers. Each bid indicates the consumer's respective commitment, preferably irrevocable commitment, to buy a number of units of a particular product and the price he is willing to pay for that number, preferably at a time certain in the future. The system also includes electronic means for processing data representative of the retail bids accumulated by the recording means to determine terms of one or more collective bids to be made by the entity to a seller or offeror for a large number of units. The system also may include electronic means for identifying which bidding consumers are entitled to units and for determining the number and price of the units delivered to each such bidding consumer upon acceptance by a seller of a collective bid in accordance with the established rules of the auction. All three of these elements of the system may be embodied in a suitably programmed general purpose computer or number of computers accessible by the bidding public via the internet or other network. Preferably, the system is implemented through the internet via a web page through which consumers can shop for various

products they wish to purchase. Alternatively, a website may be dedicated to a single type of product, e.g., new offerings of securities.

Those skilled in the art will be able to implement the method and system disclosed herein without undue experimentation by purchasing suitable computer hardware and programming the computer using methods known per se to implement the required functions disclosed herein.

In still another aspect, the invention provides an internet-accessible site for facilitating purchase by consumers of a small number of units of a product at a price per unit competitive with that paid by volume purchasers, and may even permit the inclusion of a small purchaser where otherwise participation in the offering is exclusive to a particular class of buyers. The site is effective to implement the consumers' participation via a virtual purchase collective. The site includes posted data informative of the future availability of units to be purchased, and optionally of their quality, specifications and/or projected costs; posted rules, or instructions on how to get access to the rules or otherwise learn them, which delineate at least some of the rules of the auction in which consumers can bid, and how the collective will determine the number of units the collective will attempt to purchase and the price it is willing to pay. The rules also will delineate the conditions under which a participating consumer will earn a right to receive fulfillment of at least a portion of its bid. The site also includes means for receiving bids from consumers electronically. The bids are commitments to purchase specified numbers of units at a bid price and typically are made before the collective has purchased the units. In this respect, the entity operating the website is akin to a selling agent as opposed to a reseller. It acts as a virtual electronic syndicate organized to purchase a large number of units of the product or service in a market efficient way on behalf of consumers. The data "posted" at the website need not be directed presented, but rather may be presented via hyperlinks to the websites or other sources, e.g., of sellers or distributors of units of the type to be purchased by the collective.

The invention also provides means by which a set of potential purchasers of a varied set of products or services are sorted automatically into virtual electronic syndicates or collectives, each bidding for and buying a subset of products or services, and wherein the composition of each collective may vary and each purchaser may be a member of various collectives simultaneously. In this manner of self sorting, the purchasing power of collectives is available for each purchase and for each purchaser even though no two purchasers bid for the same set of products and

services. Such automated sorting is greatly facilitated through the connectivity afforded by the internet as well as the methods described in this invention.

This process is further described by the following illustrative example: Purchasers P1, P2, P3, P4 and P5 participate in an auction to purchase Goods and Services GS1, GS2, GS3, GS4, GS5. To simplify the example, assume the price offered by each purchaser for each goods or services is at or above the price at which the seller is willing to sell the product. For this example also assume that purchase by just a few purchasers affords the advantage of the collective described above. (Of course, the example can be generalized to include sufficient number, for example, hundreds or tens of thousands of purchasers of each type of goods or services sufficient to benefit from the advantages of group buying.)

Accordingly, P1 bids for GS1 and GS4. P2 bids for GS1, GS2 and GS5. P3 bids for GS2 and GS3. P4 bids for GS3, GS4 and GS5. P5 bids for GS1, GS2, GS3 and GS5. The collectives that are automatically formed by the methods described herein comprise: Collective 1 (COLL1) that buys GS1 for P1, P2 and P5. COLL2 that buys GS2 for P2, P3 and P5. COLL3 that buys GS3 for P3, P4 and P5. COLL4 that buys GS4 for P1 and P4. COLL5 that buys GS5 for P2, P4, and P5. Note that each of the purchasers acquires the goods with the buying power of a collective even though no other purchaser in the set described offers to purchase the same goods. In this manner, aggregation and disaggregation of buyers provided through the methods and systems described herein allows sets of disparate purchasers to profit from the benefits of virtual, online, self sorting collectives.

A major advantage of the invention is that it permits small volume purchasers such as consumers at retail not only to obtain the products they desire at lower prices, but also in many instances permits them to participate in an offering which otherwise would exclude them.

In this regard, an important embodiment of the invention constitutes a virtual electronic syndicate of investors which permits them to participate in new offerings such as follow-on offerings and initial public offerings underwritten by investment bankers, or to take advantage of lower prices characteristic of block trades. It should be noted that the entity implementing the process and system, or maintaining the web page, acts as a broker, a purchasing agent, or a virtual electronic syndicate, and does not itself necessarily engage in underwriting or wholesaling in any real sense, or in consignment. Typically, when an attractive offering is announced, the



underwriter has a definite assessment of the price per share of the securities to be issued based on assessments of demand and the countless factors which generate demand. In the course of pricing the deal, representatives of the issuing entity commonly go on a "road show" where business plans and prospects of the company are explained to potential investors. Normally, retail purchasers of small numbers of securities cannot privately purchase shares of this offering, unless he or she is an investor in a mutual fund which bids successfully for the new offering, or a favored investor of a securities brokerage house which receives an allocation of shares from the underwriter for sale to its retail customers. If the offering has been successful, retail investors can buy shares after the offering when they become publicly traded. However, almost by definition, the demand generated by many such small investors will increase the value of the shares. The virtual electronic syndicate entity disclosed herein may be used by such investors to participate in the original offering, thus permitting them to buy at a price they may otherwise not be able to obtain, or to buy at a time when non-participating retail investors cannot buy at all.

Thus, this important embodiment of the invention provides a method of trading securities between an offeror of large blocks of shares of the securities and a consumer of small numbers of shares at a price per share to the consumer competitive with the price paid by bulk purchasers of the securities. The method comprises accumulating at auction under rules pre-agreed with consumers retail bids made electronically by a large number of consumers. The bids indicate the consumers' respective commitments, preferably irrevocable commitments, to purchase a number of the shares and the price they are willing to pay for that number. The accumulated bids, either continuously or after the bidding is closed, are used to establish the terms of at least one, typically several, collective bids to be made to the offeror for a large block of the shares. Next, one or more offers are made to purchase a block of the shares at a price per share determined by the accumulated irrevocable bids in hand. When a collective bid is accepted, the shares obtained are distributed in accordance with the rules of the auction, which determines the number of shares each successful bidder is to receive and the cost of those shares. Thus, the virtual electronic syndicate, if it attracts enough participation, can compete very effectively with large institutional investors in newly offered securities. Indeed, it is at least theoretically possible that such virtual collectives could become a major player in the financial markets.

The electronic bids preferably are made by the consumer investors via the internet or direct lines at, for example, a website which, in addition to having interactive displays through which a consumer can make a bid, includes data in compliance with regulations, including disclosure regulations, governing the sale of securities as well as data informative of the potential value of the shares. Such data may be presented directly or via links to the sites of others. Where the investors are subscribers to an ongoing service offering such new issues, it may be possible to establish permission from each shareholder to deliver all required SEC documents electronically. Also, it is likely that in the future paper stock certificates may become obsolete, thus permitting evidence of ownership to reside in computers as virtual shares.

The method may be used to purchase shares from introductory public offerings or follow-on offerings of equity, debt, or combined debt and equity instruments such as convertible debentures. The auction rules may vary, depending on many circumstances, but often will permit bidders to make multiple alternative bids for different numbers of shares at different prices. It also is contemplated that the auctioning procedure may be repeated before or after closure of the offering in response to changing market conditions or for the purchase of over allotments. The posting of data may include information about the projected share price, regulatory filings, research reports, details about the business plans of the company issuing the shares, details about personnel of the company issuing the shares, the general financial condition of the company, risk factors involved with projecting the future value of shares, the competitive environment the company operates in, the trading history of the shares of securities of competitors of the issuing company, and the history of previous offerings of the offeror, such as the underwriter. The virtual electronic syndicate may make multiple bids to the offerors of the securities wherein bids for larger blocks of shares are at a lower cost per share. The electronic syndicate may collect a commission from retail purchasers or consumers who took delivery and paid for their respective allotted shares, or where permitted by law, collect a commission from the offeror which accepted the syndicate's bid. Alternatively or in addition, the entity running the virtual electronic purchase syndicates may enroll subscribers who are notified electronically of upcoming buying opportunities, who choose to participate as desired, and pay a subscription fee for the service.

The system embodying the invention designed for implementing the foregoing comprises means electronically accessible to consumers for recording retail bids made electronically by the

consumers at auction under pre-agreed rules, which bids indicate the consumers' respective commitments to buy a number of shares of a particular offering and the price they are willing to pay for that number. Electronic means such as a suitably programmed computer processes the data representative of the retail bids accumulated by the recording means and determines terms of one or more collective bids to be made to an offeror for a large block of the shares of the securities. Additionally, the system may comprise means for identifying which bidding consumers are entitled to shares and for determining the number and price of the shares to be delivered to each consumer upon acceptance by the offeror of a collective bid, all in accordance with the rules of the auction. The system also preferably comprises means for posting data electronically accessible to the consumers informative of the availability and optionally of the potential value of the offered shares and rules governing the purchase of shares through the system. Also preferably, the system includes means for electronically delivering all regulatory information necessary to complete transfer of the shares to successful bidders for the shares.

Referring to the drawing, the sole figure is a block diagram helpful in explaining the method and system of the invention. As illustrated, a virtual purchasing collective, or virtual electronic syndicate communicates via a network with multiple prospective retail purchasers (PRPs) and with at least one seller of units of product to be purchased by the collective on behalf of a subset of the prospective retail purchasers participating in the method and system. The network advantageously may be the internet or a dedicated network available by direct links to subscribers. Certain of the information transmitted between the prospective purchasers and the collective may be quite sensitive and appropriate encryption technology may be necessary or desirable to assure confidentiality of the communications.

The method begins when the entity posts notice of upcoming sale of product of a type described above, which notice is accessed electronically by consumers considering making a purchase of such goods. It is necessary that the prospective purchasers understand and agree to the rules of the purchase offer, and are able intelligently to assess the nature, quality and value of the units of product to be offered. The retail purchasers may obtain such information off the network, available there because it is posted by the purchasing collective or, in the case of descriptions of the goods subject to a transaction, perhaps by the seller or distributor of the goods. Typically, each purchaser will have set up an electronic account with the entity operating

the virtual purchasing collective which facilitates secure information transfer, payment by successful purchasers, and delivery of goods purchased. The rules of the auction may be posted on the network or delivered to subscribers in hard copy. In any event, whether or not the system is run with a network of subscribers or simply broadcast to the public, participants must understand that their bids are binding commitments to purchase and must arrange for appropriate transfer of funds, preferably without fail should they succeed in their bid. The identity and characteristics of the prospective retail purchasers may vary widely. By way of example in the area of security sales, the PRPs may be amateur investors purchasing stock for their own accounts, investment trusts or small brokerage businesses seeking to purchase securities on behalf of their customers, or any other entity which seeks to benefit from the buying power of the purchasing collective.

As a randomly selected example of sale of consumer products, the PRPs may be consumers of children's books such as elementary schools of varying size seeking to purchase various quantities of fourth grade reading texts. Irrespective of the nature of the goods, those of the PRPs which choose to participate electronically transmit bids to the virtual purchasing collective via the network. The bids take the form of binding offers to purchase a set number of units of product for a set price.

In the textbook example, it may be that a single copy of the book costs \$20, 20-500 books are available at \$15 each, and in lots of 500 or more the price is \$10 each. Presume participant 1 is a parent homeschooling his twin fourth grade sons. Participant 2 is a small private school in Europe seeking to use the books to teach English to a class of 10. Participant 3 is a large public school district seeking to purchase 3,200 books. Participant 4 is a group of mid-sized school districts, each of which seeks to purchase between 100 and 600 books. Participant 5 is a school district seeking to purchase 150 books. Bids are placed by each of the entities in accordance with the table set forth below.

TABLE A

PRP	UNITS BID	PRICE/UNIT BID	SAVINGS/UNIT (TOTAL SAVINGS FROM LIST)
1. Parent	2	\$15*	\$11 (22)
2. Small Private School	10	\$8	--
3. Large District	3200	\$5	--
4. Group of Mid-Sized Districts	100	\$13*	\$6 (600)
	200	\$9*	\$6 (1200)
	300	\$12*	\$6 (1800)
	360	\$10*	\$6 (1950)
	600	\$9*	\$1 (600)
5. Mid-Sized District	150	\$8	--

As can be appreciated from the Table, participant 1, buying a small number but seeking to benefit from the collective purchase, bids \$15 per unit or \$30 for the two books. Participant 1 has no way of knowing who other bidders may be and is unaware that a number of school districts also seek the book. Participant 2 bids a low price of \$8 believing that its bid will be commingled with many hundreds of school districts as it believes the book is very popular and that it will benefit from a volume price discount if the bidder accepts a very large order far in excess of the 500 units needed to obtain the price of \$10. Participant 3 knows it can purchase the books at \$10 and suspects that it can negotiate privately to get the price down to \$7. It accordingly bids \$5 seeking to benefit from the collective. The participants listed as number 4 are a group of school districts which, knowing the list prices, seek to benefit from the leverage of the cooperative offering between \$9 and \$13 per unit from between 100 and 600 books. Participant 5 is similar to the members of the group in participant 4, but seeks an exceptional bargain, bidding \$8.

Each participant has reviewed, perhaps, a sample of the book shown to it by a salesperson of the bookseller. Alternatively, it has accessed information about the book including volume discounts on its purchase, terms of delivery, etc., on line at web pages hosted either by the

bookseller, reviewers or distributors of the book, or possibly by the virtual purchasing collective recognizing a market in the book.

Each of the participants over, for example, a two week period selected by the collective to coincide with the purchasing cycle of school books, places its bid as set forth in the Table through the network, and the bids are logged in at the purchasing collective. At one or more points during the course of the bidding process, bids stored in memory are assessed by computer to generate collective bids.

A simple analysis of potential collective bids is tabulated below.

**TABLE B**

\*Total ordered at  $\geq 5$  is 4912

\*Total ordered at  $\geq 8$  is 1712

\*Total ordered at  $\geq 9$  is 1552

Total ordered at  $\geq 10$  is 1012

\*Total ordered at  $\geq 12$  is 502.

Where bidding has transpired as indicated in the Table above, for example, at the close of a preset bidding period, there have been bids of \$5 or more for 4,912 units, \$8 or more for 1,712 units, \$9 or more for 1,552 units, \$10 or more for 1,012 units, and \$12 or more for 502 units (as set forth in Table A). The collective then decides to make four bids to the bookseller, that is, the bids for the amounts and at the prices set forth in the starred entries in Table B. These are transferred to the seller for its consideration. The seller, knowing that it has 2,000 books remaining in inventory, anticipating a stream of small orders at the \$15 to \$20 cost per unit price, and realizing that it may not sell out this printing of the book this year, chooses to sell 1,552 books at \$9 per unit.

Upon receipt of this information, the virtual purchasing collective causes the 1,552 books to be delivered to those of the bidders whose bid was equal to or greater than \$9 per unit. This means that participant 1 gets its two books delivered for \$18, saving \$6 per book or a total of \$12. The mid-sized district which ordered 600 books could have bought them at \$10 each, but has saved \$1 per book for a total savings of \$600. The remaining successful bidders save \$6/book

over the price they could otherwise obtain, saving from \$2,900 to \$600 on the purchase. Unsuccessful bidders receive no books, having misjudged the market. Depending on many market factors and on the nature of the goods offered, the entire process, excepting delivery, may take a few minutes or several months.

As another example, an auction can be held to create a virtual collective to participate in an initial public offering as follows. ABCD company files a registration statement with the Securities and Exchange Commission describing details of the offering and prospects of the company. This filing is often known as prospectus or "red herring." ABCD Co. is represented by IB1 Investment Bank which acts as lead manager and underwrites the offering together with other investment banks which are members of the underwriting syndicate. In this example, 2.5 million shares are offered to the public at a price range between \$12 and \$14 per share.

During the period between the document being filed and it being approved by the SEC, securities regulations prohibit attempts to sell the issue. During this time, the ABCD Co. management team, through a road show coordinated by IB1, presents the company to institutions and retail brokerage divisions of the underwriting firms. Through this process, indications of interest (but not firm offers to purchase) which collectively represent a "book" of indications, is gathered by the syndicate manager who works for the IB1.

Simultaneously with the conventional offering process, the agent entity described herein presents through a website information regarding the company, the upcoming offering, and notifies potential participants of the retail auction. After the offering is declared effective, and before it is priced and distributed by IB1, the on-line auction for the IPO of ABCD Co. is conducted. The following are example bids received among the hundreds to tens of thousands that can be expected through such an auction. On-line retail buyer 1 (OLRB1) bids for 1000 shares at \$16/share. OLRB2 bids for 500 shares at \$12/share. OLRB3 bids for 100 shares at \$20/share. OLRB4 bids for 5000 shares at \$10/share. These are all unconditional offers to purchase at or below the respective bid prices.

At the close of the auction the entity has received bids to purchase 1,750,000 shares: 50,000 shares at or below \$16/share; 200,000 shares at or below \$14/share; 300,000 shares at or below \$13/share; 400,000 shares at or below \$12/share; and 800,000 share at or below \$10/share. These bids are presented to the IB1 for inclusion into the "book" of orders. At the close of this

process, IB1 offers 250,000 shares at \$12/share to the auction agent entity which is acting as the virtual online collective's agent. In distributing the shares, OLRB1 is provided 1000 shares at \$12/share and OLRB3 is provided 100 shares at \$12/share. OLRB2 obtains no shares as there are bids for in excess of 250,000 shares at prices in excess of \$12.00. OLRB4 gets no shares as it bid below \$12.00. Rules could govern share distribution in any way agreed in advance, or in accordance with the rules of the fixed price lot dutch auction described above. The auction manager receives a commission from each buyer through this process.

The invention may be embodied in other specific forms.



What is claimed is:

1) An electronic brokerage method of selling units of a product which permits consumers to buy at a price per unit competitive with the price paid by bulk purchasers of the product, or provides to consumers an opportunity to purchase a product which otherwise may not be available to them, the method comprising:

a) posting, in a manner electronically accessible to consumers of the product, notice of the availability of units of product for purchase;

b) accumulating retail bids made electronically by a multiplicity of said consumers indicating their respective commitments to buy a number of units of the product and the price they are willing to pay for that number;

c) using said accumulated retail bids to establish the terms of a collective bid to a third party seller of the product for a selected number of units at a selected price per unit;

d) submitting at least one said collective bid to a said third party seller; and when said collective bid is accepted,

e) causing units of the product to be delivered to a subset of the consumers which bid at or above the per unit price of the accepted collective bid.

2) The method of claim 1 wherein the accumulated retail bids include commitments to buy a said number of said units before a future date.

3) The method of claim 1 wherein said posting includes instructions for buyers sufficient to enable them to place a bid electronically.

4) The method of claim 1 comprising the additional step of collecting a commission from consumers which take delivery and pay for their respective numbers of units.

5) The method of claim 1 wherein the units are fungible.

6) The method of claim 1 wherein step a is conducted by posting said data on a network to subscribers seeking to consider a purchase of units of said products.

7) The method of claim 6 comprising the additional step of collecting a subscription fee from said subscribers.

8) The method of claim 1 wherein step a is conducted by posting a web site comprising said data including links to various categories of data and information informative of the quality, source, and specifications of the units.

9) The method of claim 1 comprising the additional step of providing software available to said consumers to permit them to transmit electronically their respective commitments to buy a number of the units and the price they are willing to pay for that number.

10) The method of claim 1 comprising the additional step of collecting a commission from the seller of said units.

11) The method of claim 1 wherein the price per unit of an accepted collective bid is a price lower than the price per unit collected from the subset of customers so as to generate a profit.

12) The method of claim 1 wherein the price determination of step c is conducted by analyzing said bids as a Dutch auction to establish a per share price and a number of units to be specified in a collective bid.

13) The method of claim 1 wherein, in step d, a plurality of bids are submitted to the seller, wherein the bids with larger numbers of units are at lower costs per unit.

14) The method of claim 1 wherein data which are informative of the qualities and specifications of the product is posted on an internet site through links to sellers or distributors of units of a product that is the target purchase of the consumer.

15) A system for permitting retail consumers of smaller numbers of units of a product to purchase the units at a price per unit competitive with the price paid by purchasers of larger numbers of units of the product, or provides to consumers an opportunity to purchase a product which otherwise may not be available to them, the system comprising:

means, electronically accessible to said consumers, for recording bids made electronically at auction under pre-agreed rules by a multiplicity of consumers indicating their respective commitments to buy a number of units of the product and the price they are willing to pay for that number;

electronic means for processing data representative of the bids accumulated by the recording means to determine terms of one or more collective bids to be made to a third party seller for a large number of said units; and

electronic means for identifying which bidding consumers are entitled to units and for determining the number and price of the units to be delivered to each successful bidding consumer in accordance with the rules upon acceptance by a said seller of a collective bid.

16) The system of claim 15 further comprising means for posting data, electronically accessible to said consumers, informative of the availability of the units and optionally of their quality, specifications, or projected cost.

17) The system of claim 15 further comprising means for posting rules or instructions how to obtain rules governing the purchase of units through the system.

18) The system of claim 15 wherein the means for recording, the means for processing, and the means for identifying are one or more programmed computers and the computer comprising the recording means is accessible to consumers via the internet or dedicated lines.

19) An internet-accessible site for facilitating purchase by consumers of a small number of units of a product at a price per unit competitive with the price paid by purchasers of larger numbers of units of the product, or which provides to consumers an opportunity to purchase a product which otherwise may not be available to them, the site being effective to implement the consumer's participation in a virtual purchasing collective, the site including:

posted data informative of the future availability of the units, and optionally their quality, specifications, or projected cost;

posted rules which delineate or posted instructions to obtain rules which delineate at least rules of an auction in which consumers bid and which will be used to determine the number of units the collective will attempt to purchase and the price it is willing to pay, and which determine the conditions under which a participating consumer will earn a rights to receive fulfillment of at least a portion of its bid;

means for receiving bids from consumers comprising commitments to purchase a specified number of units at a bid price before the collective has purchased units to satisfy the bid.

20) The site of claim 19 wherein at least a portion of the posted data is presented at the site via links to sellers of units of the type offered at the site for purchase through the collective.

21) The site of claim 19 including posted data indicative of the future time of availability of units through the collective.

22) A electronic brokerage method of trading securities between a third party offeror of one or more large blocks of shares of the securities and a consumer of smaller numbers of shares at a price per share to the consumer competitive with the price paid by bulk purchasers of the securities, or provides the consumer with an opportunity to purchase securities which otherwise may not be available to it, the method comprising:

a) accumulating at auction under pre-agreed rules bids made electronically by a multiplicity of consumers indicating their respective commitments to buy a number of the shares and the price they are willing to pay for that number;

b) using said accumulated retail bids to establish the terms of one or more collective bids to the third party offeror for a block of said shares at a selected price per share;

c) submitting at least one said collective bid to said third party offeror; and, when a collective bid is accepted,

d) causing to be distributed, in accordance with said rules, numbers of shares to a subset of the consumers which bid at or above the per share price of an accepted collective bid.

23) The method of claim 22 additionally comprising posting data, electronically accessible to said consumers of shares, which data are in compliance with regulations including disclosure regulations governing the sale of said securities, and are informative of the potential value of the shares.

24) The method of claim 22 wherein steps a-c are conducted before establishment of a public market for said shares and the offeror is an underwriting entity.

25) The method of claim 22 wherein the shares offered comprise a block of shares already publicly traded.

26) The method of claim 22 wherein the auction rules permit bidders to make multiple bids for different numbers of shares at different prices.

27) The method of claim 22 wherein the auction rules specify that a commitment of the bidder is an irrevocable commitment.

28) The method of claim 22 additionally comprising repeating step a and b prior to acceptance of a collective bid in response to changing market conditions for the securities.

29) The method of claim 22 comprising the additional step of collecting a commission from consumers which took delivery and paid for their respective numbers of shares.

30) The method of claim 22 comprising the additional step of collecting a commission from the offeror which accepted the collective bid.

31) The method of claim 23 comprising posting said data on the internet to subscribers seeking to consider a purchase of shares of said securities.

32) The method of claim 31 comprising the additional step of collecting a subscription fee from said subscribers.

33) The method of claim 23 comprising posting a web site displaying said data including links to various categories of data informative of the potential value of the shares.

34) The method of claim 23 wherein said data comprises data about one or more of projected share price, regulatory filings, research reports, the business plans of the company

issuing the shares, personnel of the company issuing the shares, the financial condition of the company issuing the shares, risk factors involved with projecting the future value of the shares, the trading history of the shares or of securities of competitors of the issuing company, and the history of previous offerings of the offeror.

35) The method of claim 22 wherein step b is conducted by analyzing said bids as a Dutch auction to establish the per share price and the number of shares to be named in the collective bid.

36) The method of claim 22 wherein, in step c, a plurality of bids are submitted to the offeror wherein the bids for larger blocks of shares are at lower costs per share.

37) The method of claim 22 wherein the shares offered represent equity, debt, or convertible debt of an issuing company.

38) A system for permitting retail consumers of smaller numbers of shares of securities to purchase the securities at a price per share competitive with the price paid by purchasers of larger numbers of shares of the securities, or provides to consumers an opportunity to purchase securities which otherwise may not be available to them, the system comprising:

means, electronically accessible to said consumers, for recording bids made electronically at auction under pre-agreed rules by a multiplicity of consumers indicating their respective commitments to buy a number of shares of an offering and the price they are willing to pay for that number;

electronic means for processing data representative of the retail bids accumulated by the recording means to determine terms of one or more collective bids to be made to a third party offeror for a large block of said shares; and

electronic means for identifying which bidding consumers are entitled to shares and for determining the number and price of the shares to be delivered to each consumer in accordance with the rules upon acceptance of a collective bid.

39) The system of claim 38 further comprising means for posting data, electronically accessible to said consumers, informative of the availability of the shares and optionally of and the potential value of the offered.

40) The system of claim 38 further comprising means for electronically delivering all regulatory information necessary to complete a transfer of the shares to successful bidders for the shares.

41) An electronic brokering method for sorting buyers in the market for one or more units of a selected product into a purchasing collective through which to obtain the units at an advantageous price, or to permit the buyers collectively to purchase units they could not obtain individually, the method comprising:

a) posting, in a manner electronically accessible to consumers of the product, notice of the availability of units of product for purchase and the broker's intent to try to purchase them;

b) accumulating retail bids made electronically by a multiplicity of said consumers indicating their respective commitments to buy a number of units of the product and the price they are willing to pay for that number;

c) using said accumulated retail bids to establish the terms of one or more collective bids to a third party seller of the product for a selected number of units at a selected price per unit;

d) submitting at least one said collective bid to said third party seller; and when said collective bid is accepted,



e) causing units of the product to be delivered to a subset of the consumers which bid at or above the per unit price of the accepted collective bid.

42) The method of claim 41 wherein the units are shares of a security.

43) The method of claim 41 wherein said third party seller comprises plural entities which act individually or collectively.

44) An electronic brokering method for sorting buyers in the market for one or more units of one or more selected products into plural purchasing collectives through which to obtain the units at an advantageous price, or to permit the buyers collectively to purchase units they could not obtain individually, the method comprising:

a) posting, in a manner electronically accessible to consumers of the products, notice of the availability of units of products for purchase and the broker's intent to try to purchase them;

b) accumulating retail bids made electronically by a multiplicity of said consumers indicating their respective commitments to buy a number of units of one or more products and the price they are willing to pay therefor;

c) using said accumulated retail bids to establish the terms of one or more collective bids to one or more third party sellers of the product for a selected number of units at a selected price per unit;

d) submitting at least one said collective bid to said third party sellers; and when said collective bid is accepted,

e) causing units of the products to be delivered to a subset of the consumers which bid at or above the per unit price of the accepted collective bid.

45) The method of claim 44 wherein the units are shares of a security.

46) The method of claim 44 wherein said third party seller comprises plural entities which act individually or collectively.

# ABSTRACT

Disclosed is an electronic commerce method which permits buyers of goods to participate in a virtual purchasing collective. Participation permits consumers to obtain products at prices normally available only to bulk purchasers, and on occasion to obtain products not otherwise available to them.

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